ELECTRICAL
& COMPUTER
ENGINEERING

ECE-595 Network Softwarization

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Course exam details

Two multiple choices tests (one already done)

Project development in Comnetsemu

Project presentation:

- Repository on github, with comprehensive instructions on how to run the software within Comnetsemu, students' names & implementation details
- Powerpoint/pdf presentation (included in the github repository), discussed with Prof. F. Granelli

Project n.1

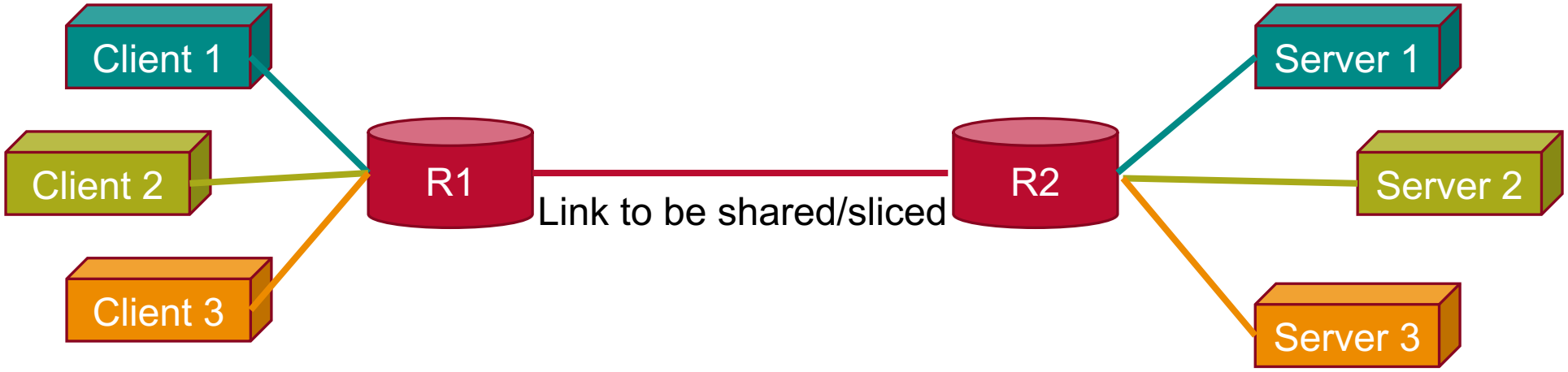
1-2 students

GOAL: to implement in Comnetsemu VM a network slicing strategy to adapt to emergency situation

DETAILS: typically 2 slices are available, equally sharing the total capacity (e.g. 10Mbps divided in 5Mbps+5Mbps) but using only 50% of the respective capacity; a new slice is then built for emergency communications – requiring 4Mbps, and then the other slices are reduced to 3+3Mbps. Once emergency is gone, capacity is back to the original

You can start from examples and apps within Comnetsemu

Project n.1 – Example Scenario



Project n.2

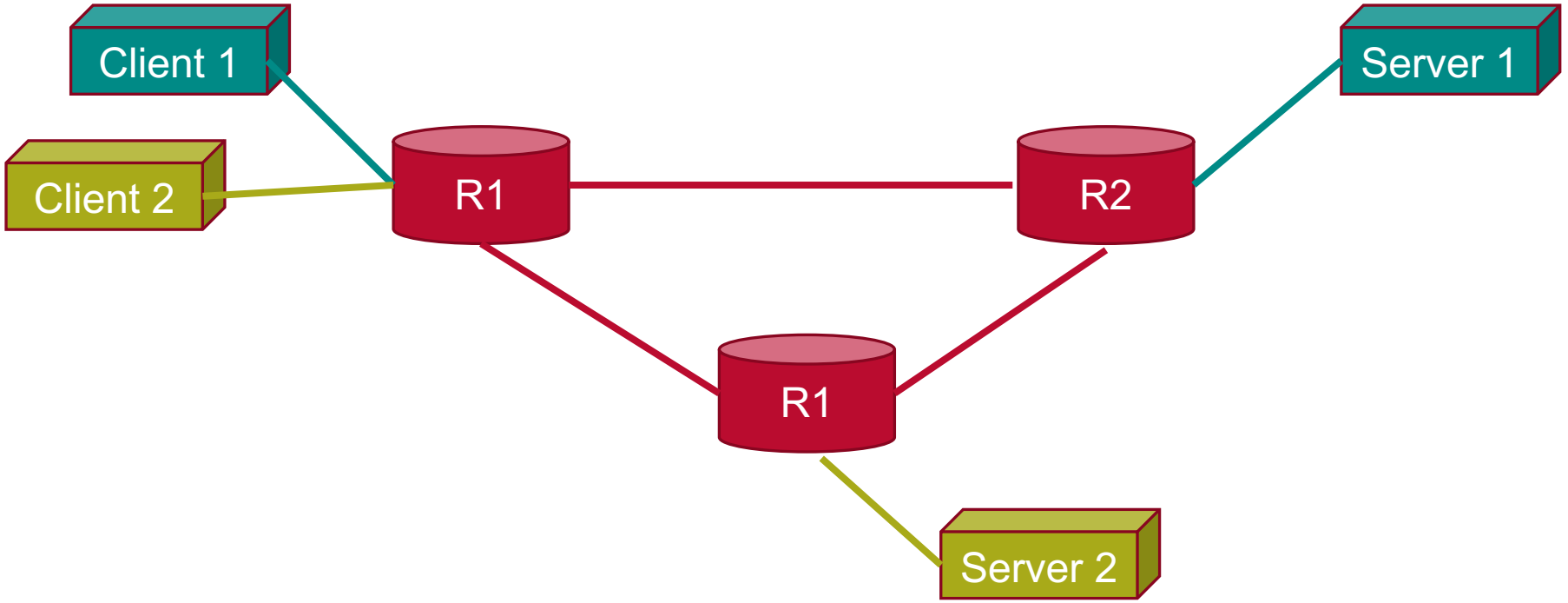
1-2 students

GOAL: to allocate services in strategic slice positions within Comnetsemu

DETAILS: the system has two slices, one for broadband (e.g. 5Mbps) and one for low latency (e.g. <5ms). The system should be able to position the services within the network core in order to satisfy those performance constraints. You can use ML/AI or even simpler strategies

You can start from examples and apps within Comnetsemu

Project n.2 – Example Scenario



Project n.3

2-3 students

GOAL: to deploy the 5G core within Comnetsemu

DETAILS: to generate an automated script for Comnetsemu to deploy the components of the 5G core network within a mininet-enabled network infrastructure and provide some way to test it

Software can be chosen freely, e.g. https://github.com/bubblecounter/Internship-5GCN

Project n.4

2-3 students

GOAL: to deploy a simulator of 4G/5G RAN within Comnetsemu

DETAILS: to generate an automated script for Comnetsemu to run a simulation incorporating the RAN in a mininet model

Software can be freely chosen, e.g. https://github.com/aligungr/UERANSIM